

F1 to Fp, J1 to J4, R1 to R5, and Y1 to Yn each represent a nucleotide, which is complementary to E1 to Ep, H1 to H4, Q1 to Q5, and W1 to Wn, respectively;

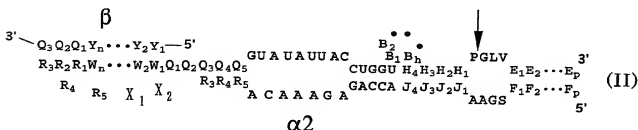
S represents an adenine nucleotide or a cytosine nucleotide;

P represents any of a uracil nucleotide, an adenine nucleotide, a cytosine nucleotide, or a guanine nucleotide;

L represents any of a uracil nucleotide, an adenine nucleotide, or a cytosine nucleotide;

V represents an adenine nucleotide when S is a cytosine nucleotide and represents a uracil nucleotide or a cytosine nucleotide when S is an adenine nucleotide; and

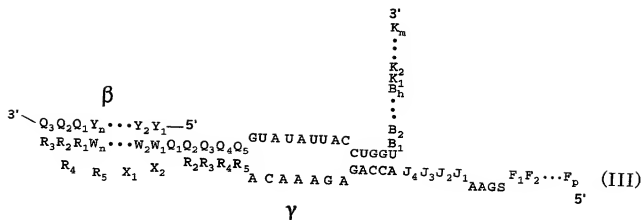
h is an integer from 3 to 20, n is an integer from 1 to 10, and p is an integer from 1 to 10.]



[wherein $\alpha 2$ represents a ribozyme sequence and β represents an oligonucleotide sequence with symbols used herein conveying the same meanings as used in general formula (I).]

6. The hairpin ribozyme according to claim 1, which is a trans-form ribozyme cleaving another ribonucleotide sequence upon activation.

7. The hairpin ribozyme according to claim 6, which exhibits a complex structure with an oligonucleotide as shown in general formula (III)



[wherein γ represents a ribozyme sequence and β represents an oligonucleotide sequence:

in which U represents a uracil nucleotide, C represents a cytosine nucleotide, A represents an adenine nucleotide, and G represents a guanine nucleotide;

B1 to Bh, F1 to Fp, J1 to J4, K1 to Km, Q1 to Q5, W1 to Wn, and X1 and X2, which may be the same or different, each represent any of a uracil nucleotide, an adenine nucleotide, a cytosine nucleotide, or a guanine nucleotide;

R1 to R5 and Y1 to Yn each represent a nucleotide, which is complementary to Q1 to Q5 and W1 to Wn, respectively;

S represents an adenine nucleotide or a cytosine nucleotide; and

h is an integer from 3 to 20, m is an integer from 1 to 10, n is an integer from 1 to 10, and p is an integer from 1 to 10.]

8. An isolated DNA encoding a ribonucleotide which constitutes the hairpin ribozyme according to claim 1.

9. A recombinant vector comprising the DNA according to claim 8.

10. A host cell into which the recombinant vector according to claim 9 has been introduced.

11. A method for activating a hairpin ribozyme, comprising changing a stem-and-loop three-dimensional structure by hybridization between an oligonucleotide

and an inactive ribozyme.

12. The method for activating a hairpin ribozyme according to claim 11, wherein one or more nucleotides in the oligonucleotide are 2'-O-methylated.

13. A method for detecting a target nucleotide sequence with the hairpin ribozyme according to claim 1.

14. The method for detecting according to claim 13, comprising detecting the presence of a target nucleotide sequence in a sample contained on a DNA chip.

15. A method for detecting a target nucleotide sequence, comprising detecting a fragment cleaved by the self-cleavage of the hairpin ribozyme according to claim 1.

16. The method for detecting according to claim 13, comprising detecting a cleaved fragment using a fluorochrome or a radioactive label.

17. A detection kit for a target nucleotide sequence in a sample, comprising the hairpin ribozyme according to claim 1.

18. A method for cleaving a ribonucleotide sequence, using the hairpin ribozyme according to claim 1.

19. The method for cleaving according to claim 18, wherein administration of the hairpin ribozyme according to claim 1 is carried out separately from that of the oligonucleotide.

20. The method for cleaving according to claim 18, wherein one or more nucleotides in the oligonucleotide are 2'-O-methylated.

21. A pharmaceutical composition comprising the hairpin ribozyme according to claim 1.

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